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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,277	02/12/2004	John Stanley Glaser	130487-2	5487
41838	7590	04/06/2005	EXAMINER	
GENERAL ELECTRIC COMPANY (PCPI)			NGUYEN, CHAU N	
C/O FLETCHER YODER			ART UNIT	
P. O. BOX 692289			PAPER NUMBER	
HOUSTON, TX 77269-2289			2831	

DATE MAILED: 04/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/776,277

Applicant(s)

GLASER ET AL.

Examiner

Chau N. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 49-88 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 49-59, 63-66, 69-78, 82-85 and 88 is/are rejected.
- 7) ☒ Claim(s) 60-62, 67, 68, 79-81, 86 and 87 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 49, 50, 52, 54-59, 63-66, 70, 71, 73-78 and 82-85 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rokas (4,443,277) in view of Endo (4,208,542).

Rokas discloses an electrical cable comprising a plurality of electrical conductors (14) bonded to respective neighboring ones of the electrical conductors to form a ribbon (Fig. 1), the electrical conductors being electrically insulated from the respective neighboring ones, the ribbon being folded to form cable assembly, each of the conductors traversing the width of the cable assembly at least twice (Fig. 1). Rokas does not disclose a subset of the electrical conductors being electrically coupled to one another (re claims 49 and 70). Endo discloses an electrical cable comprising a plurality of electrical

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conductors (Figure 1), wherein a subset (14) of the electrical conductors is electrically coupled to one another. It would have been obvious to one skilled in the art to apply the teaching of Endo in the electrical cable of Rokas to separate the conductors into different sets for electrically connecting to different terminals.

The modified cable of Rokas also discloses the conductors not describing spirals around the cable assembly (Fig. 8) (re claims 50, 71), the cable assembly being folded lengthwise (Fig. 8) (re claims 52, 73), the conductors being bonded to a cable substrate or a bonding layer (16) (re claims 54, 74), the cable substrate being electrically insulating (re claims 55, 75), the conductors being spaced apart from the respective neighboring ones (re claim 56), the conductors having a non-rectangular cross section (re claims 57, 76), the conductors being disposed on an outer surface of the cable assembly (re claims 64, 83), and the ribbon being folded around an insulating strip (52, Fig. 7) (re claims 65, 84). Re claims 58, 59, 77 and 78, Endo discloses the uncoupled remainder (16) of the electrical conductors being electrically coupled to produce a second coupled subset (16). Endo does not disclose the second coupled subset (16) being at the other end of the cable, opposite from the first coupled subset (14). However, it would have been obvious to one skilled in the art to couple the second subset of the conductors of Rokas at the other end of the cable, opposite from the first coupled subset for connecting the cable to terminals at two opposite ends of the cable since it has been held that rearranging parts of an invention involves only routine skill in the art. *In Japikse*, 86 USPQ 70. Re claims 63 and 82, it would have been obvious to one skilled in the art to also provide conductors on the other face of the cable substrate (16) in the ribbon of Rokas to increase the transmission capacity of the ribbon since it has been held that merely duplicating the

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essential working part of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8. Re claims 66 and 85, it would have been obvious to one skilled in the art to arrange the conductors of Rokas in diagonal patterns to meet the specific use of the resulting ribbon since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70.

4. Claims 49, 51, 54, 69, 70, 72 and 88 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zein et al. (2002/0046870) in view of Endo.

Zein et al. discloses an electrical cable comprising a plurality of electrical conductors (3) bonded to respective neighboring ones of the electrical conductors to form a ribbon (Fig. 2), the electrical conductors being electrically insulated from the respective neighboring ones, the ribbon being folded to form cable assembly (Figs 7 and 8), each of the conductors traversing the width of the cable assembly at least twice (Figs 7 and 8). Zein et al. does not disclose a subset of the conductors being electrically coupled to one another. Endo discloses an electrical cable comprising a plurality of electrical conductors (Figure 1), wherein a subset (14) of the electrical conductors is electrically coupled to one another (re claims 49 and 70). It would have been obvious to one skilled in the art to apply the teaching of Endo in the electrical cable of Zein et al. to separate the conductors into different sets for electrically connecting to different terminals.

Zein et al. also discloses the act of folding the ribbon comprising bending the ribbon to form a corner (Fig. 8) (re claims 51, 72), the conductors being bonded to a cable substrate (re claim 54), the conductors comprising an electrically conductive ink (conductors 3 being electrical circuit traces) (re claims 69, 88).

5. Claim 53 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rokas in view of Endo as applied to claim 49 above, and further in view of Shah et al. (5,500,489).

Claim 53 additionally recites a bonding layer disposed in the ribbon. Shah et al. discloses a ribbon cable comprising a bonding layer (10). It would have been obvious to one skilled in the art to provide the ribbon of Rokas with a bonding layer as taught Shah et al. to provide a bonding between the ribbon and the outer jacket when the ribbon is used to form a cable assembly.

Allowable Subject Matter

6. Claims 60-62, 67, 68, 79-81, 86 and 87 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record does not teach or suggest an electrical cable comprising all the features as recited in the claims and in combination with members of the first coupled subset having different respective lengths, members of the second coupled subset having lengths in one-to-one correspondence with the different respective lengths of the members of the first coupled subset (re claims 60, 79), a first insulating gap at a first gap location along the length of the first coupled subset (re claims 61, 80), the diagonal patterns being formed on opposite faces of the cable substrate, opposite faces pairs of the conductors being electrically coupled at edges of the cable substrate (re claims 67, 86), the diagonal patterns being formed on opposite faces of the cable substrate, the opposite

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faces having coupling holes therethrough, the opposite face pairs of conductors being coupled through the coupling holes (re claims 68, 87).

Response to Arguments

8. Applicant's arguments with respect to claims 49 and 70 have been considered but are moot in view of the new ground(s) of rejection.

Summary

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Communication

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chau N. Nguyen whose telephone number is 571-272-1980. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on 571-272-2800 ext 31. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Chau N Nguyen
Primary Examiner
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